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Quadrilateral Group of Trade Ministers ('the Quad')

The Quadrilateral Group of Trade Ministers ('the Quad') was established at the 1981 GROUP OF 7 (G-7) summit. It meets regularly at ministerial level and frequently at official level to discuss multilateral trade issues. It is an informal grouping, with no operational responsibility; its significance, therefore, is comparable to that of the G-7 itself. Participants are the European Commission (which has EUROPEAN UNION (EU) competence for trade policy under Article 113 of the TREATY OF ROME), Canada, Japan and the United States. They are the world's four largest trading entities, a status recognized in the WORLD TRADE ORGANIZATION (WTO) Trade Policy Review Mechanism, where they are the only members subject to surveillance every two years, rather than every four or more years. Quad leadership can be essential for the WTO since, unlike the WORLD BANK and the INTERNATIONAL MONETARY FUND (IMF), no power is delegated to a smaller executive group. The Quad played a significant role during the URUGUAY ROUND, as they did in a more informal way during previous Rounds, since one or other of the Quad members tends to be the largest trading partner for all other WTO members. Recently the Quad has been working at officials' level with the other members of the 'Invisibles Group' – Argentina, Australia, Brazil, India, South Korea, Morocco, New Zealand, Norway, Poland, Singapore and Switzerland.

Further reading

Kenen, P.B. (ed.) (1994) *Managing the World Economy: Fifty Years After Bretton Woods*, Washington, D.C.: Institute for International Economics.

ROBERT WOLFE

quality of life

Traditional measures of development have focused on GROSS NATIONAL PRODUCT (GNP). New measures look at actual measures of people's quality of life based on life-span, education, access to clean water and nutrition, healthcare, equal economic opportunity for women, environmental quality, sometimes political and civil rights, and similar variables. These measures, such as the United Nation's Human Development Index, more accurately reflect quality of life. Clean water would indicate a higher quality of life, while polluted water would indicate one that is lower, whereas under the old measures, water pollution from an oil spill, for example, would add to GNP and show up as improved economic development.

PAUL G. HARRIS

quantity theory of money (QTM)

The quantity theory of money (QTM), dating back at least to the mid-sixteenth-century Spanish scholastic writers of the Salamanca School, is one of the oldest theories in economics. Modern students know it as the proposition stating that an exogenously given one-time change in the stock of money has no lasting effect on real variables, but leads ultimately to a proportionate change in the

money price of goods. More simply, it declares that, all else being equal, money's value or purchasing power varies inversely with its quantity.

There is nothing mysterious about the quantity theory. Classical and neo-classical economists never tired of stressing that it is simply an application to money of the ordinary theory of demand and supply (see NEO-CLASSICAL ECONOMICS). Demand-and-supply theory, of course, predicts that a good's equilibrium value (or market price) will fall as the good becomes more abundant relative to the demand for it. In the same way, the quantity theory predicts that an increase in the nominal supply of money will, given the real demand for it, lower the value of each unit of money in terms of the goods it commands. Since the inverse of the general price level measures money's value in terms of goods, general prices must rise.

In the late nineteenth and early twentieth centuries, two versions of the theory competed. One, advanced by the US economist Irving Fisher, treated the theory as a complete and self-contained explanation of the price level; the other, propounded by the Swedish economist Knut Wicksell, saw it as part of a broader model in which the difference, or spread, between market and natural rates of interest jointly determine bank money and price-level changes.

The contrasts between the two approaches were striking. Fisher's version was consistently quantity-theoretic throughout and, indeed, focused explicitly on the received classical propositions of neutrality, equiproportionality, money-to-price causality, and the independence of money supply and demand. By contrast, Wicksell's version contained certain elements seemingly at odds with the theory. These included (1) a real-shock explanation of monetary and price movements, (2) the complete absence of money (currency) in the hypothetical extreme case of a pure credit economy and (3) the identity between deposit supply and demand at all price levels in that same pure credit case rendering prices indeterminate.

Although the quantify theory has had a long history, it fell into disrepute in the 1930s, partly because it seemed at the time that this theory could not explain the GREAT DEPRESSION and partly because of the publication in 1936 of Keynes's theory (see KEYNES, JOHN MAYNARD). Although some economists continued to advocate the quantity theory, most economists became Keynesians and treated the quantity theory as a historical curiosity (see KEYNESIAN ECONOMICS).

Only in the mid- and late 1950s did the quantity theory again become a serious rival to the Keynesian theory. There were several reasons for the revival. First, contrary to the predictions of many Keynesians, on the conclusion of World War II the US economy did not revert to the depressed conditions of the 1930s, but instead underwent INFLATION. Second, one seemingly great benefit of the Keynesian revolution had been its demonstration that by manipulating expenditures and taxes, governments could keep their economies close to full employment. But it turned out that there were serious political as well as economic difficulties in actually changing government expenditures and tax rates in these recommended ways, and that Keynesian theory appeared to be less useful than it had originally seemed.

However, the resurgence of the quantity theory should not be attributed merely to impersonal historical events. It is also due to the fact that several extremely able economists advocated quantity theory. Don Patinkin, of the Hebrew University, restated the quantity theory in a rigorous way that avoided many of the crudities that infested earlier expositions. MILTON FRIEDMAN, of the University of Chicago, and many of his former students provided a framework that allows one to test empirically the proposition that changes in the quantity of money dominate changes in income. Moreover, Friedman and Anna Schwartz, of the National Bureau of Economic Research, argued in a lengthy study that the experience of the Great Depression should be interpreted as confirming the predictions of the quantity theory rather than Keynesian theory.

Subsequently, they showed that in both the United States and the United Kingdom, longer-run movements in nominal income were highly correlated with movements in the money stock.

Despite the resurgence of the quantity theory in the 1970s and early 1980s, it is still far from universally accepted by economists. Controversies about its validity and applicability rage on. In his masterful survey, David Laidler noted that:

> Controversy about the Quantity Theory has been marked by common themes since the 18th century. These include the definition of money, the relationship between correlation and causation, and the transmission mechanism. Controversy has continued because of the technical difficulty of sorting out the direction of causation running between money and prices, and, on a deeper level, because ideological concerns about the viability of market mechanisms are at stake in the controversy.
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> (Laidler, 1991: 223)

See also:

Chicago School; monetarism

Reference and further reading

Friedman, M. (1956) 'The quantity theory of money: A restatement', in M. Friedman (ed.) *Studies in the Quantity Theory of Money*, Chicago, IL: University of Chicago Press. Classic statement of Friedman's view.

—— (1968) 'The role of monetary policy', *The American Economic Review* 58: 1–17. Powerful argument that changes in the money stock depress interest rates only temporarily.

Laidler, D. (1978) 'Money and money income: An essay on the transaction mechanisms', *Journal of Monetary Economics* 4: 151–92. Excellent survey of one of the major disputes about the quantity theory.

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Mayer, T. *et al.* (1978) *The Structure of Monetarism*, New York: W.W. Norton. Survey of and debate about the broader aspects of monetarism by both monetarist and non-monetarist economists.

ROBERT LOONEY

quotas

Quotas are binding restrictions on the amounts of certain goods that can be imported into, or exported from, a country. Import quotas are usually employed to deal with BALANCE OF PAYMENTS problems or to protect domestic industry; export quotas are usually employed to control the supply of goods to the world market. Both types of quotas can generate RENT-SEEKING behaviour and both can be replaced by TARIFFS, which produce similar effects without rent-seeking.

Import quotas may be set unilaterally by a government. One reason for their imposition can be a severe balance of payment deficit. Import quotas can be used in such a situation to limit the value of total imports to below the expected value of total exports. Import quotas were often imposed by European countries immediately following World War II for this reason. Another common type of import quota is designed to protect or stimulate domestic industry. The United States and the EUROPEAN COMMUNITY (EC) have used import quotas to protect their domestic agricultural sectors throughout the post-war period. Developing countries have also used import quotas to protect infant industries and promote IMPORT SUBSTITUTION INDUSTRIALIZATION (ISI).

To implement import quotas, the government typically distributes import licences. Since the quota limits supply, it increases domestic price and the import licences become entitlements to the rents thus created. Rent-seeking behaviour often results, as importers compete for access to these licences. Rent-seeking behaviour can be avoided if the licences are